

# Liou, Li-Wei (Welly)

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## PROFESSIONAL SUMMARY

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- **NYCU Master of Electrical & Control Engineering** specializing in robotics system integration.
- **Core Expertise:** Human-Robot Collaboration, VR Teleoperation, LLM-based Task Planning.
- **Technical Skills:** ROS/ROS2, Unity/Gazebo, VR/AR, Behavior Trees.
- **Proven Success:** 3rd Place Winner, RobotX 2022; Collaborations with International University.

## EDUCATION

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**Master of Engineering, Institute of Electrical and Control Engineering** Sep 2022 – Oct 2024  
*National Yang Ming Chiao Tung University (NYCU)* Hsinchu, Taiwan

**Bachelor of Interdisciplinary Program of Electrical Engineering & Computer Science** Sep 2017 – Jun 2022  
*National Central University (NCU)* Taoyuan, Taiwan

## RESEARCH & PROJECT EXPERIENCE

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**Research Assistant — Human-Robot Cooperation Lab** Oct 2024 – Jan 2025  
*National Tsing Hua University (NTHU)* Hsinchu, Taiwan

- Developing and integrating open-source robotic arms (Koch) and mobile manipulators (Stretch3).
- Implementing and researching human-robot collaborative tasks using the ROS2 framework.

**Master Degree — Assistive Robotics Group Lab** Sep 2022 – Oct 2024  
*National Yang Ming Chiao Tung University (NYCU)* Hsinchu, Taiwan

- **Thesis of AI-Copilot for Aerial Manipulation:** VR teleoperator cooperate with LLM generated BT copilot for aerial manipulation task.
- **Advanced Teleoperation Research (UGV & Mobile Manipulators):** Run teleoperation projects by collaborating with both international (George Mason University) and domestic (5G Network Lab) partners. Validated low-latency, high-immersion control with across the globe VPN.

**System Integration Team Member — RobotX 2022 Competition (3rd Place Winner)** Dec 2022  
*Unmanned Surface Vehicles Team* Sydney, Australia

- Owned the integration of a Hyperspectral Imaging (HSI) camera into the ROS network.

## TECHNICAL SKILLS

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<b>Programming Languages:</b>	Python, C++, C#
<b>Robotics &amp; Simulation:</b>	ROS/ROS2, Gazebo, VR, Behavior Trees, Teleoperation
<b>Dev Tools &amp; Platforms:</b>	Linux (Ubuntu), Git, Docker

## PUBLICATIONS

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Third Author, "An Evaluation Framework of Human-Robot Teaming for Navigation among Movable Obstacles via Virtual Reality-based Interactions," 2024 *IEEE Robotics and Automation Letters (RAL)*.